CLAIMS

What is claimed is:

1. An imaging sensor system comprising

an optics system that images a point feature of a scene at an image plane as a blur-circle image having a blur diameter; and

a detector array at the image plane,

wherein the detector array is a one-dimensional detector array comprising a plurality of detector subelements each having a width of from about 1/2 to about 5 blur diameters, and a length of n blur diameters,

wherein each detector subelement overlaps each of two adjacent detector subelements along their lengths,

wherein an overlap of each of the two adjacent detector subelements is m blur diameters and a center-to-center spacing of each of the two adjacent detector subelements is n_o blur diameters, and

wherein n is equal to about 3m and m is equal to about $n_o/2$.

2. The imaging sensor system of claim 1, wherein the detector subelements each have a width of about 1 blur diameter.

3. The imaging sensor system of claim 1, wherein n lies in a range of from about (3m-2) to about (3m+2), and m lies in a range of from about ($n_o/2-1$) to about ($n_o/2+1$).

4. The imaging sensor system of claim 1, wherein n lies in a range from (3m-2) to (3m+2), and m lies in a range of from ($n_o/2-1$) to ($n_o/2+1$).

5. The imaging sensor system of claim 1, wherein n is equal to 3m and m is equal to $n_o/2$.

6. The imaging sensor system of claim 1, wherein the length of the

detector subelements is at least 20 times the detector width, and wherein n is substantially equal to 3m and m is substantially equal to $n_O/2$.

7. The imaging sensor system of claim 1, wherein n is substantially equal to (3m-2) and m is substantially equal to ($n_O/2$-1).

8. The imaging sensor system of claim 1, wherein the length of the detector subelements is less than 20 times the detector width, and wherein n is substantially equal to (3m-2) and m is substantially equal to ($n_O/2$-1).

9. The imaging sensor system of claim 1, wherein n is substantially equal to (3m+2) and m is substantially equal to ($n_O/2$+1).

10. The imaging sensor system of claim 1, wherein the length of the detector subelements is less than 20 times the detector width, and wherein n is substantially equal to (3m+2) and m is substantially equal to ($n_O/2$+1).

11. The imaging sensor system of claim 1, further including

a scanning mechanism that scans the one-dimensional detector array in a scanning direction perpendicular to the length of the detector subelements.

12. The imaging sensor system of claim 1, further including

a moving platform upon which the one-dimensional detector array is mounted.

13. An imaging sensor system comprising

an optics system that images a point feature of a scene at an image plane as a blur-circle image having a blur-circle diameter; and

a detector array at the image plane,

wherein the detector array is a two-dimensional detector array comprising a plurality of detector subelements, and

wherein the detector subelements are sized and staggered such that

an area of the blur-circle image may not simultaneously be split equally among four detector subelements.

14. The imaging sensor system of claim 13, wherein the detector subelements are square in plan view.

15. The imaging sensor system of claim 13, wherein the detector subelements are rectangular in plan view.

16. The imaging sensor system of claim 15, wherein each detector subelement is rectangular in plan view with a length of m blur diameters, a lengthwise overlap of 1 blur diameter relative to a laterally adjacent detector subelement, and a staggered pattern of detector subelements that repeats every m laterally adjacent rows, where m is a positive integer.

17. A method for locating a position of a feature in a scene, comprising the steps of

forming an image of the feature using a segmented array having a plurality of array subelements, wherein each of the array subelements has an output signal; and

cooperatively analyzing the output signals from at least two spatially adjacent array subelements

to establish a data set reflective of an extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent array subelements, and

to reach a conclusion from the data set as to a location of the image of the feature on the segmented array.

18. The method of claim 17, wherein the step of providing a sensor includes the step of

providing a one-dimensional segmented array having spatially overlapping array subelements.

19. The method of claim 17, wherein the step of providing a sensor includes the step of

providing a two-dimensional segmented array formed of a pattern of intersecting array subelements.

20. The method of claim 17, wherein the step of providing a sensor includes the step of

providing a two-dimensional segmented array formed of a pattern of square array subelements, wherein four of the square array subelements meet at an intersection point, and wherein the step of forming an image includes the step of

forming the image having a diameter of one blur diameter.